

TTPA Tractor Assembly Instructions

Thank you for your purchase of a TTPA Pulling Tractor

This manual will take you through the assembly process for your new tractor

Tools Required for assembly:

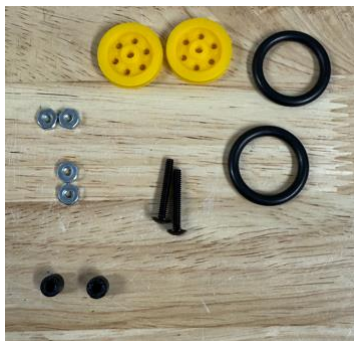
- 1) Superglue
- 2) Small Phillips screwdriver
- 3) 1/4" wrench
- 4) Soldering iron
- 5) Solder
- 6) Solder paste (optional)



Reference the end of the manual for a parts list/parts names

Assembly Instructions:

- 1) Get front rims, front tires, Qty:2 4-40X3/4" machine screws, Qty:2 front axle spacers, and Qty:4 4-40 nuts



- 2) Assemble tires onto rims
- 3) Place screws through rims
- 4) Place spacers on screws
- 5) Place nut on screw to hold spacer

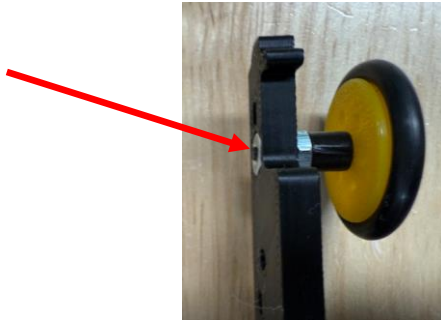


- 6) Place nuts in LH and RH frame rails

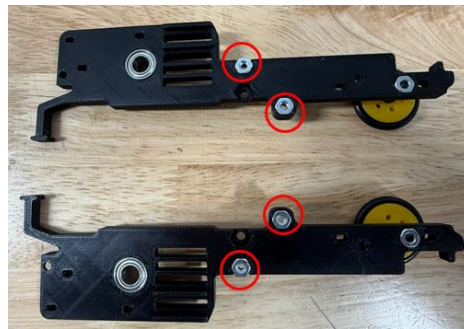


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- 7) On one frame rail – screw a front tire assembly into the nut installed in step #6. Screw the front axle until it is flush with the nut installed in step #6



- 8) Tighten the nut on the outside of the frame rail so it is tight against the frame. Be careful to keep the screw flush as shown above
- 9) Repeat steps for the other side frame rail
- 10) Install 4 nuts into the frame rails as shown below. Use a small amount of superglue to hold the nuts in place



- 11) Set this assembly aside and let the glue dry
- 12) Get the switch, front weight rack, and Qty:2 4-40 x 1/4" sheet metal screws (silver)

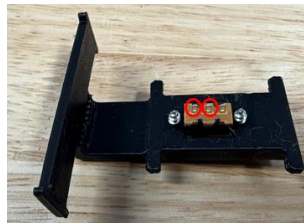


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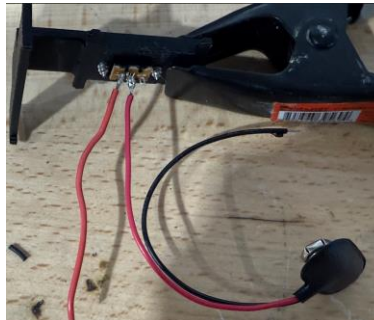
- 13) Insert the switch into the front weight rack and secure with the two silver screws. Make sure the switch is inserted from the bottom so that the switch slide is pointing the opposite direction as the weight rack rail



- 14) Get the battery connector, and wire
15) Apply solder to the end of all wires
16) Apply solder to the switch terminals shown below



- 17) Solder the battery connector RED wire, and the red wire as shown below

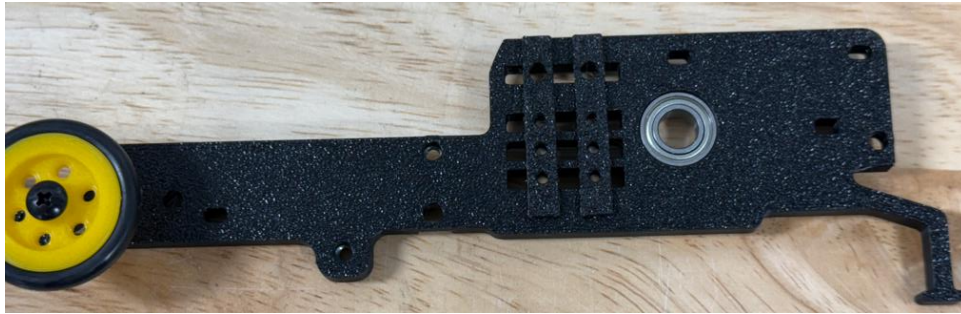


- 18) Return to the frame rail assemblies. Grab the assemblies, Qty:2 gear slides, Qty:2 4-40X1/2", and Qty:2 nuts



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- 19) On the LH FRAME RAIL, install the two gear slides in the approximate location below (these will be adjusted to tune gear mesh at a later step).



- 20) Hold the gear slides in place using the nuts and screws. Just snug the fasteners for now as they will be loosened and adjusted later



- 21) Get a gear shaft and THICK gear spacer. Insert the gear spacer as shown below



- 22) Get the rear axle/gear, the gear spacer from step #21, and the LH SIDE RAIL. Insert the parts as shown below. Note the the hole in the gear slide that this axle should be inserted through



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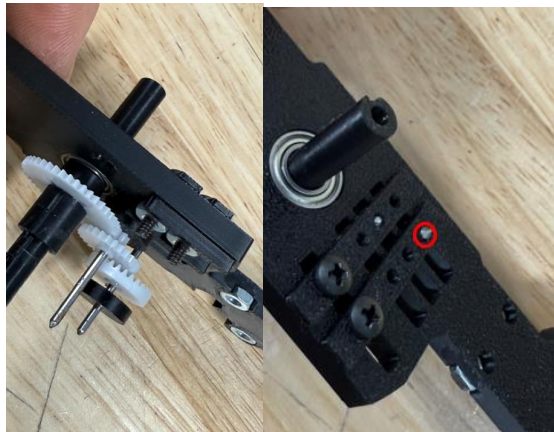
23) Install the spur gear on the gear shaft installed in the prior steps



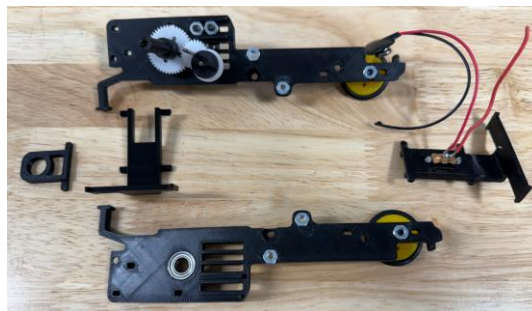
24) Get the crown gear, thin gear spacer, and gear shaft and assemble as shown. Pay attention to the direction of the crown gear and the spacer



25) Install this into the LH FRAME RAIL as shown below. Note the hole in the gear slide that the gear shaft should be inserted through

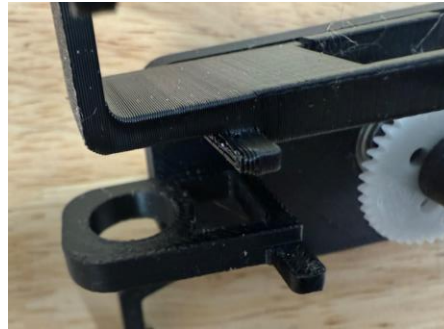
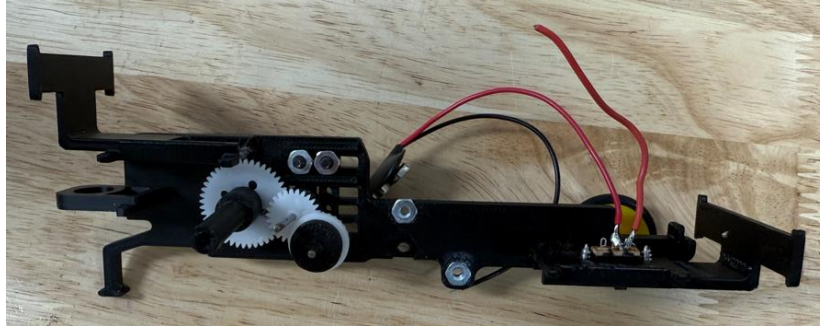


26) Get the LH FRAME RAIL ASSEMBLY from the previous step, rear weight rack, front weight rack/switch assembly, and hitch

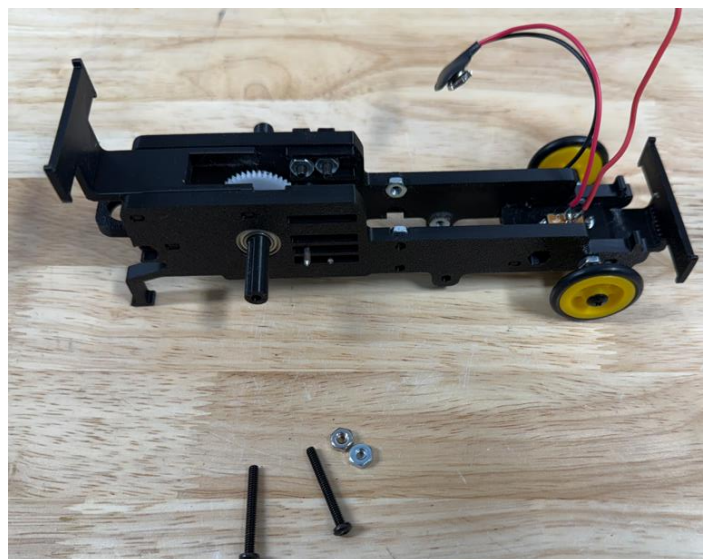


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- 27) In the LH FRAME RAIL, insert the hitch, rear weight rack, and front weight rack/switch assembly as shown. Note the orientation of the hitch. The hitch step should be placed so the hitch is flush on the bottom – step in the hitch tab facing up.

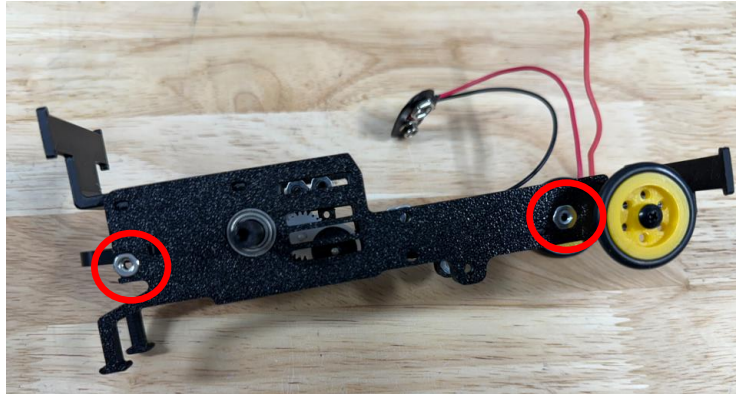


- 28) Get the RH FRAME RAIL, Qty:2 4-40x1" screws, and Qty:2 nuts. Carefully assembly the rh frame rail to the previous assembly while lining up the tabs for the front and rear weight racks, hitch, and rear axle

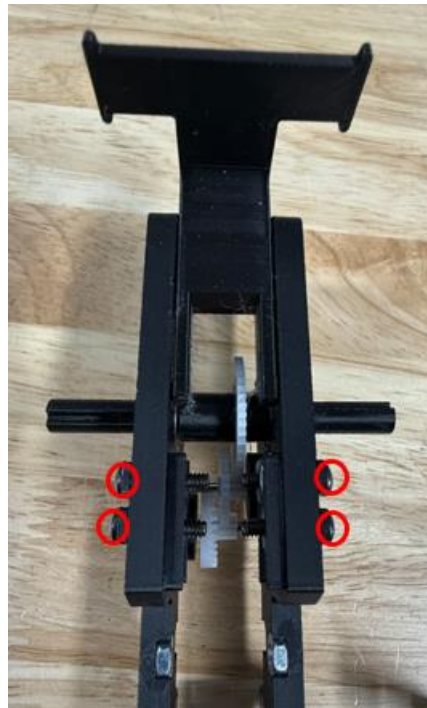


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- 29) Place nuts into the RH FRAME RAIL as shown and use the two 1" long screws to fasten the frame together. Make sure all tabs in the parts are fully inserted, and tighten the screws

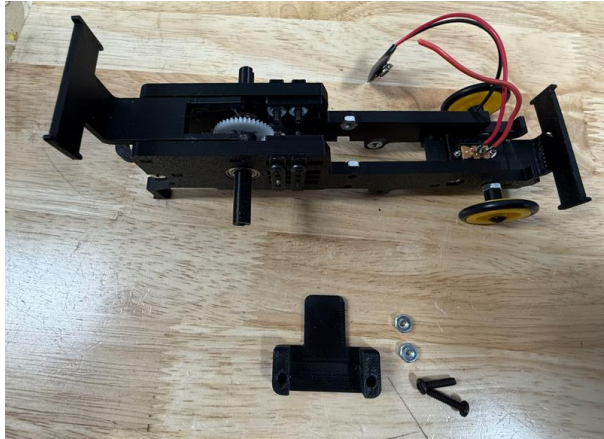


- 30) Loosen the 4 screws on the gear slides shown in the picture. Then move the axle/gear slide assembly with the spur gear so that it meshes well with the rear axle. Tighten these gear slides. Then move the axle/gear slide assembly with the crown gear so that it meshes well with the spur gear. Tighten these gear slides. You should be able to easily spin the rear axle and all gears move. You can then hold your finger on the crown gear and try to turn the axle to make sure the gears mesh will not slip at any interface



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- 31) Get a motor holder, Qty:2 4-40x1/2" machine screw, Qty:2 nuts, and the frame assembly just completed



- 32) Install a nut into each frame rail as shown. Then install the motor holder in the bottom of the frame assembly. Secure with the two screws

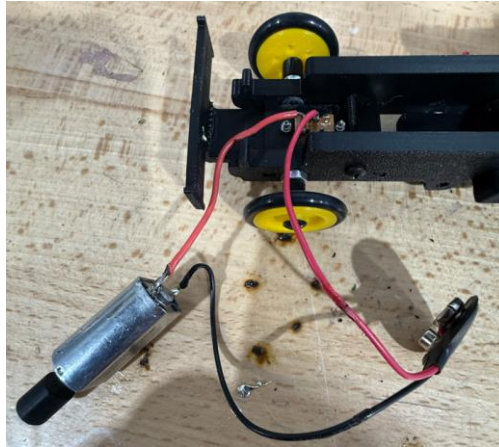


- 33) Use a battery to touch the leads of the motor and make the motor turn. Determine the +/- orientation of the batter required to obtain counterclockwise rotation of the gear as shown. Mark the motor with "+" or "-" to record the polarity orientation

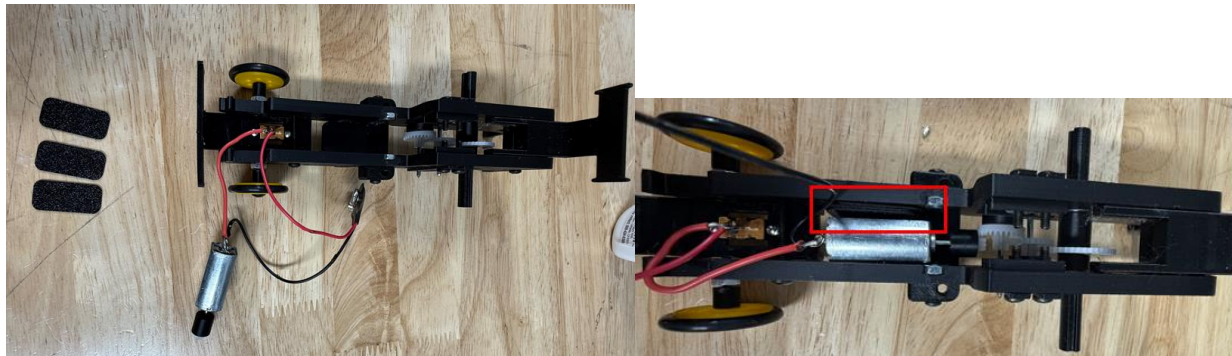


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34) Solder the wires to the motor – noting the polarity determined in the previous step



35) Get the frame rail assembly and 3 motor spacers. Inset the motor into the frame assembly and place 3 motor spacers along the RH frame rail as shown. Be sure the motor spacers do not cover the nuts in the top of the frame rails. They can be slid forward/backward.



36) Get 3 more motor spacers and place between the motor and LH FRAME RAIL. Again spin the axle and determine if any spacers need to be move, or use the metal shim piece to get good gear mesh between the motor gear and the crown gear



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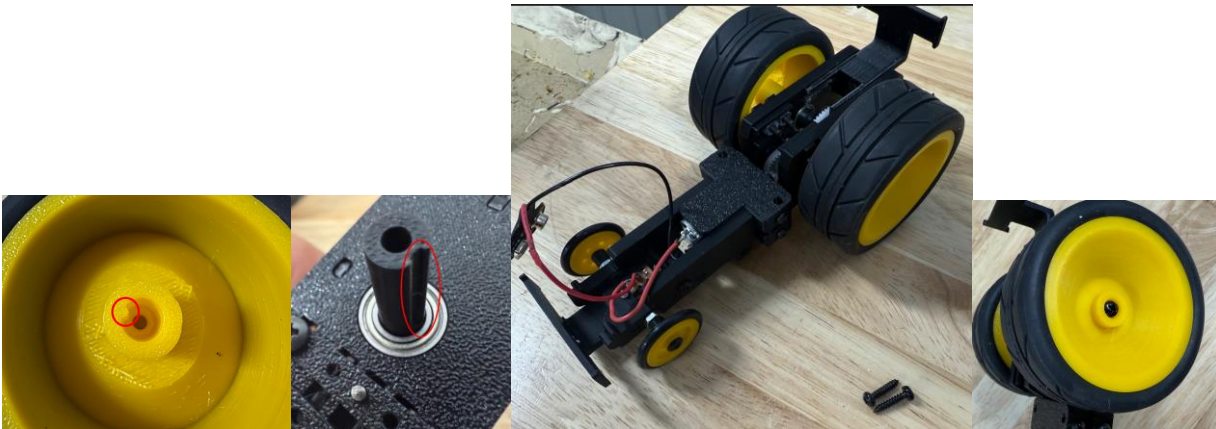
- 37) Get the frame rail assembly, Qty:2 4-40x1/2" machine screws, and the other motor holder. Assemble onto the top of the frame rail assembly to hold the motor and fasten with the screws and glued nuts previously installed in the frame rails. Pinch the assembly down when tightening the screws to hold the motor firmly in place



- 38) Get the rear tires and rear rims. Assemble the tires onto the rims. Note the tread direction when installing the tires onto the rims



- 39) Note the rib on the rim and the slot on the axle. Slide the tire/rim assembly onto each axle. Secure with Qty:2 4-40x1/2" sheet metal screws. DO NOT OVER TIGHTEN. These screws should just be snug

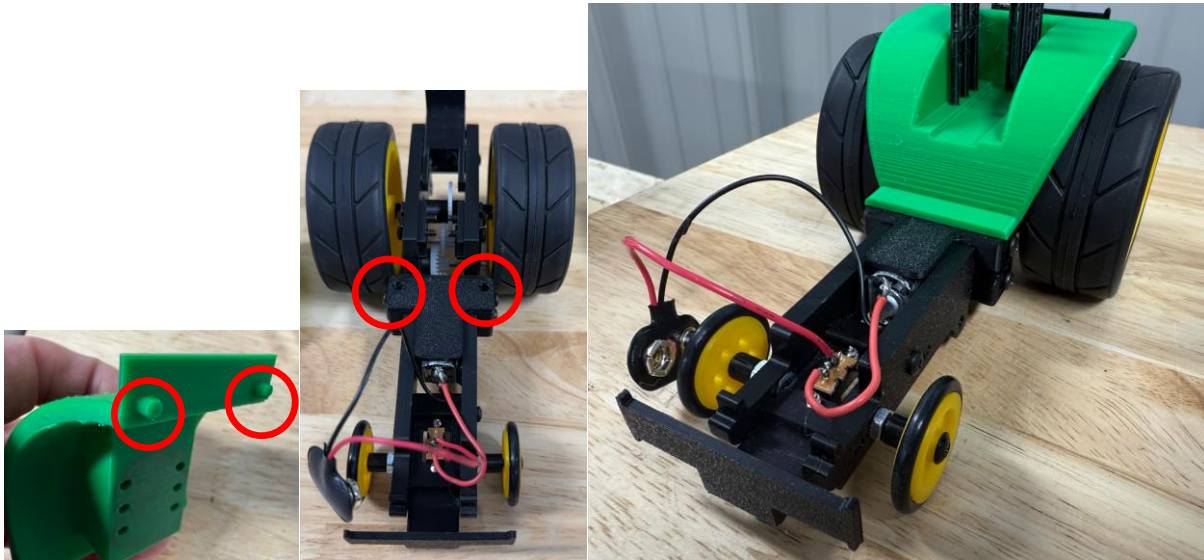


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- 40) Get the hood. Drill a 1/8" hole through the top of the hood where you want the exhaust to be installed. Glue the exhaust stack onto the hood. If your hood has side shields or grills, use superglue and install these parts on the hood. Get the fenders and roll bar. Insert the roll bar into the holes in the fender. On the bottom side of the fenders, use superglue in each rollbar hole to secure the roll bar.



- 41) Install the fenders onto the frame rails. There are small pins on the bottom of the fender that fit into the motor holder. **DO NOT GLUE THIS CONNECTION**. The fenders are held onto the assembly with the hood



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- 42) Install the hood onto the frame assembly. Note that there are tabs on the frame rails that fit into slots on the hood. Secure the hood to the frame assembly using Qty:2 4-40x1/2" machine screws



Parts List:

